

1. Refer to Street Lighting Ordinance and all amendments thereto as part of this Specification.
2. All electric work accomplished under this Specification shall be in accordance with the latest edition of the National Electric Code as published by the National Fire Protection Association and any State or Local Codes that may apply.
3. The Contractor shall furnish all materials, labor, tools, transportation, incidentals and appurtenances to provide a complete street lighting system for the area under development.
4. The Contractor shall obtain permits as required by Public Authority having jurisdiction.
5. Metering of electric service for street lighting is not required.
6. All phase and neutral cable from the Power Company transformer to the service disconnect and from the service disconnect to the street lighting fixtures (excluding the photocontrol circuit) shall be #6 AWG copper stranded, uncoated, single conductor equal to General Cable Type USE service entrance cable with 600 volt insulation, UL listed.

All phase and neutral photocontrol wiring shall be #12 AWG stranded, uncoated copper, single conductor equal to General Cable, Type USE service entrance cable with 600 volt insulation, UL listed.

7. All cable runs shall have not greater than 3% voltage drop maximum. No cable runs shall be smaller than #6 AWG copper conductors and all cable shall be for direct burial. Cable runs passing under roadways shall be at a depth of 36", all others at 24" in depth below finish grade.
8. The Contractor shall provide a 2 inch galvanized rigid conduit sleeve under all roadways, existing driveways and sidewalks in excess of 4 feet in width.
9. All street lighting standards shall be mounted 36 inches to center line from curb. Street lighting circuits shall be run in line with street lighting standards, and laid 48 inches to center line from curb.

Where roadways do not have curbs street lighting standards shall be six (6) feet from the pavement edge. Cables shall be run 2 feet back from the lighting standards.

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EVANS, MECHWART, HAMBLETON & TILTON, INC.

By

*Charles W. Board Jr.*  
CITY ADMINISTRATOR

## STREET LIGHTING SPECIFICATIONS

CITY OF  
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10. The design and layout for the street lighting, the underground wiring and other pertinent equipment to be used shall be designed by a Registered Engineer and approved by the City Engineer and Service Director.
11. All street lighting designs are to be coordinated with the supplier of electric energy. Two (2) drawings for each street lighting layout shall be submitted to supplier of electric energy for record purpose.
12. Street lighting standards shall be installed with not less than 160 feet or more than 240 feet spacing.
13. The Contractor shall obtain all inspections required by all laws, ordinances, rules, regulations or public authority having jurisdiction and shall obtain certificates of such inspections and submit same to the City Engineer. The Contractor shall pay all fees, charges and other expenses in connection therein.
14. The Contractor shall submit to the City Engineer, and Street Department for approval, prior to installation, six (6) copies of Drawings on the following items:
  1. Manufacturer's Drawings
    - a. Light Fixture
    - b. Pole and Arm
    - c. Lamps
    - d. Combination lighting contactor and cabinet
    - e. Cable
    - f. Photocontrol
  2. Specifications
  3. Engineered Drawings
15. The Contractor is referred to the Standard Construction Drawings: "Street Lighting Specifications", "Street Lighting Pole Base Detail", "Street Lighting Pole Detail", "Street Lighting Wiring Diagram", "Street Lighting Trench Detail", and "Street Lighting Controller Detail" as part of this Specification.
16. Street Department shall receive one (1) complete set of manufacturers approved submittal drawings.
17. Final inspection shall be coordinated with the Street Department.

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18. POLE BASE INSTALLATION

- A. Where "Approved Interchangeable Equal" is called for in these Specifications it shall be construed to mean that parts will be interchangeable with the parts called for without the need for any modifications or adaptive devices. Approval shall be by the City Engineer and the Street Department for Grove City, Ohio.
- B. Verify anchor bolt circle dia. with pole manufacturer.
- C. Verify bolt projection with pole manufacturer.
- D. Galvanized anchor bolts supplied with pole. Weld bolts into one assembly with steel straps as shown.
- E. 1½" rigid galvanized conduit. Extend conduit 3" above top of base. Ream and bush both ends of conduit. Bond conduit to ground wire.
- F. Ohio Department of Transportation Class "C" Concrete for pole base.
- G. 18" concrete base. Extend base 2" above finished grade. Form 20" square cap above grade with 1" chamfer.

19. POLE

- A. Pole, aluminum round tapered. Invisible welded longitudinal seam. Alloy 6063-T6 satin ground finish.
- B. Arm - 2" aluminum pole alloy 6063-T6 satin ground finish
- C. Complete with 4" x 6" reinforced handhole cover, bolt on shaft cap, anchor bolts, anchor bolt covers, hardware and anchor bolt circuit template.
- D. Provide the pole from the following manufacturers only:
  - 1. HAPCO #21-297 or approved interchangeable equal with same weight per foot, taper per foot, hole patterns, and metal thickness.

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- E. Mount photocontrol atop pole cap of first pole from service disconnect. Face cell due north. Photocontrol shall be GE #CR174H651 with top adapter No. C403G010 or approved interchangeable equal. Run 3 #12 USE to Lighting Contactor at Service Disconnect.

NOTE: Where "approved interchangeable equal" is called for in these specifications it shall be construed to mean that parts will interchange with the parts called for without the need for modifications or adapting devices. Approval shall be by the City Engineer and the Street Department for Grove City, Ohio.

20. Luminaire assembly, high pressure sodium - 100 watt, lighting package to meet the following specifications:

- A. Luminaire Assembly: High pressure sodium, 100 watt, horizontal burning, universal slipfitter for 1-1/4" or 2" side mounting. IES Light Pattern II unless noted otherwise on Drawings.

American Electric Cat. No. 313 56212-8 with Lexan refractor, or approved interchangeable equal.

1. Refractor: Lexan (polycarbonate)
  2. Ballast: 120 volt, regulator - high power factor. Line starting amps less than line operating amps.
  3. Lamp: High pressure sodium, code LU100/D, 100 watt, 8800 lumens initial, 7920 lumens mean. G.E. or approved interchangeable equal.
  4. Furnish with photocell shorting plug in receptacle for controller circuits. Individual units (non-controller circuit) shall have photocell receptacle and photocell furnished with luminaire.
- B. Cable: Thirty-five (35) feet or as required of #12 stranded copper, 600 volt, two conductor, cross-linked polyethylene insulated cable, prewired to luminaire, and securely supported at the top of Lighting Standard with a "Talon" or "Kellum" cable grip.

NOTE: Where "approved interchangeable equal" is called for in these specifications it shall be construed to mean that parts will interchange with the parts called for without the need for any modifications or adaptive devices. Approval shall be by the City Engineer and the Street Department for Grove City, Ohio.

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21. CONTROLLER

- A. Switch and service to be coordinated with Power Company personnel.
- B. When obstructions intervene or doubt exists for code clearances, location will be by Power Company personnel.
- C. Structure shall be set not less than 3'-0" nor more than 5'-0" from Power Company pedestal.
- D. Combination lighting contactor shall be 240 volt, 60A NEMA 4X stainless steel Square "D" class 8903 No. 5PW-62. Contactor shall consist of the following: Square D series "A", No. 9421 disconnect switch; Square D class 9999, type S2 fuse clips; Square D class 8903, type SPO-2 contactor, electrically held; Square D class 9999, type SC-2 selector switch with legend plate to read HAND-OFF-AUTO or approved interchangeable equal. Selector switch shall be mounted internal to the enclosure.
- E. Rigid conduit 1 1/2" diameter minimum, shall extend a minimum of 2'-0" below grade. End of conduit to be equipped with insulating bushing.
- F. Contractor to trench and bury #6 CU cable to the pedestal leaving 3'-0" minimum leads for insertion into the connection by Power Company. Contractor shall provide tin plated terminal lugs having 9/16" bolt hole for connection in pedestal.
- G. Ground rod shall be 1/2" copper-weld one piece, clean surface, driven at least 8'-0" deep. Bond box and conduit to ground rod with #4 AWG bare copper.
- H. Selector Switch - Square D class 9999, type K "3SC-2", legend plate to read HAND-OFF-AUTO, or approved interchangeable equals.

22. POLE WIRING

- A. Phase fused Connector Kit Buss No. HEB-AB with line and load boots Type L No. 1A0512 fused at 4A, or approved interchangeable equal.
- B. Neutral Unfused Connector Kit Buss No. HET-AB with line and load boots Type L No. 1A0512.

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- C. Splice conductors ahead of fuse holders.
- D. All Connectors to be insulated for 600 volts.
- E. Provide slack wire to bring kit out thru handhole.
- F. Cable to luminaire shall be securely fastened at the top of Lighting Standard with Talon Grips or equal.
- G. Neutral and ground wire to be connected to ground lug in pole. Neutral shall be connected ahead of pole base fusing. Do not drill pole.

NOTE: Where "approved interchangeable equal" is called for in these specifications it shall be construed to mean that parts will interchange with the parts called for without the need for any modifications or adapting devices. Approval shall be by the City Engineer and the Street Department for Grove City, Ohio.

- H. Both phase conductors and the neutral conductor shall be brought to each pole. Connect luminaires balanced between both phase conductors and the neutral conductor.

### 23. CABLE TRENCH

- A. Trenching - cable trench shall have vertical walls and be excavated to a depth that permits cables to be laid at 2'-0" below finish grade with a 3" sand cover above, below, and on each side.
- B. Sand shall pass a 1/4" sieve and be poured and left uncompacted.
- C. Cables shall be unreeled and placed in trench in sand bed.
- D. Backfilling - material for backfilling shall be clean earth from the site free of debris and stones. Compact backfill to 95% modified proctor.

### 24. SPLICES AND TAPS

- A. Splices and taps shall be made with copper "C" tap Burndy copper crimpit type YC or approved equal.
- B. Splices and taps shall be insulated with 3M Scotchcast Series 85 multi-mold splicing kits.

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